AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A ~~refractive index coupling~~ distributed feedback semiconductor laser comprising:

opposed first and second end surfaces through which light generated within the semiconductor laser may be emitted;

a central phase-shift structure located substantially centrally between the first and second end surfaces; and

first and second diffraction gratings respectively extending from the central phase-shift structure to the first and second end faces and having respective, different periods, wherein ~~when viewed from an almost central portion in a light distributed feedback direction in a region in which diffraction gratings are located,~~ an average coupling coefficient $\kappa 2$ of ~~a~~ the second diffraction grating ~~on one end face side~~ is smaller than an average coupling coefficient $\kappa 1$ of ~~a~~ the first diffraction grating ~~on other end face side~~, and the coupling coefficient $\kappa 2$ exceeds 100 cm^{-1}.

2. (Currently Amended) ~~A complex coupling~~ The distributed feedback semiconductor laser ~~in which an~~ according to claim 1, wherein absolute value of a real part of a coupling coefficient is at least four times ~~an~~ absolute value of an imaginary part of the coupling coefficient~~, comprising a phase-shift structure, wherein when viewed from an almost central portion in a light distributed feedback direction in a region in which diffraction gratings are located, an average coupling coefficient $\kappa 2$ of a diffraction grating on one end face side is smaller than an average coupling coefficient $\kappa 1$ of a diffraction grating on other end face side, and the coupling coefficient $\kappa 2$ exceeds 100 cm^{-1}~~.

3. (Currently Amended) The distributed feedback semiconductor laser according to claim 1, including a plurality of phase-shift structures located at ~~almost~~ substantially symmetrical positions ~~about a~~ with respect to the central ~~portion in a light distributed feedback direction in a region~~ phase-shift structure and in ~~which~~ the first and second diffraction gratings ~~are located~~.

Claims 4 and 5 (Cancelled).

6. (Currently Amended) The distributed feedback semiconductor laser according to claim 1, wherein ~~when a cycle structure~~ each of the first and second diffraction ~~grating is viewed in a light distributed feedback direction, a value of (duty~~ gratings includes alternating regions of ~~a high~~ higher and lower refractive ~~index portion)/(duty of a low~~ index materials

and the ratio of higher to lower refractive index ~~portion)~~ materials is larger in a region having the coupling coefficient $\kappa 1$ ~~is larger~~ than ~~the value~~ in a region having the coupling coefficient $\kappa 2$.

7. (Currently Amended) The distributed feedback semiconductor laser according to claim 1, wherein~~, in~~ each of the first and second diffraction gratings includes alternating regions of higher and lower refractive index materials, the regions having a higher refractive index have a ~~layer~~ layered structure ~~having a high refractive index in the diffraction grating~~, and the number of ~~high refractive index~~ layers of the higher refractive index regions in the first diffraction grating and having the coupling coefficient $\kappa 1$ is larger than the number of ~~high refractive index~~ layers of the higher refractive index materials in the second diffraction grating having the coupling coefficient $\kappa 2$.

8. (Currently Amended) The distributed feedback semiconductor laser according to claim 1, wherein a layer ~~of a low refractive index between a layer of a high refractive index in~~ supporting the first and second diffraction ~~grating and an active layer of the laser~~ gratings has a thickness smaller in ~~the~~ a region having the coupling coefficient $\kappa 1$ than in ~~the~~ a region having the coupling coefficient $\kappa 2$.

9. (Currently Amended) The distributed feedback semiconductor laser according to claim 1, wherein~~, when an~~ equivalent refractive index ~~acting when light is propagated through the~~ in a region having the coupling coefficient $\kappa 2$ is ~~represented by~~ n2, ~~an~~ equivalent refractive index ~~acting when light is propagated through the~~ in a region having the coupling coefficient $\kappa 1$ is ~~represented by~~ n1, ~~an average cycle~~ the period of the second diffraction grating in the region having the coupling coefficient $\kappa 2$ is ~~represented by~~ $\Lambda 2$, ~~and an average cycle~~ the period of the first diffraction grating in the region having the coupling coefficient $\kappa 1$ is ~~represented by~~ $\Lambda 1$, and $n2 \cdot \Lambda 2$ is ~~almost~~ substantially equal to $n1 \cdot \Lambda 1$.

This listing of claims replaces all prior versions, and listings, of claims in the application.